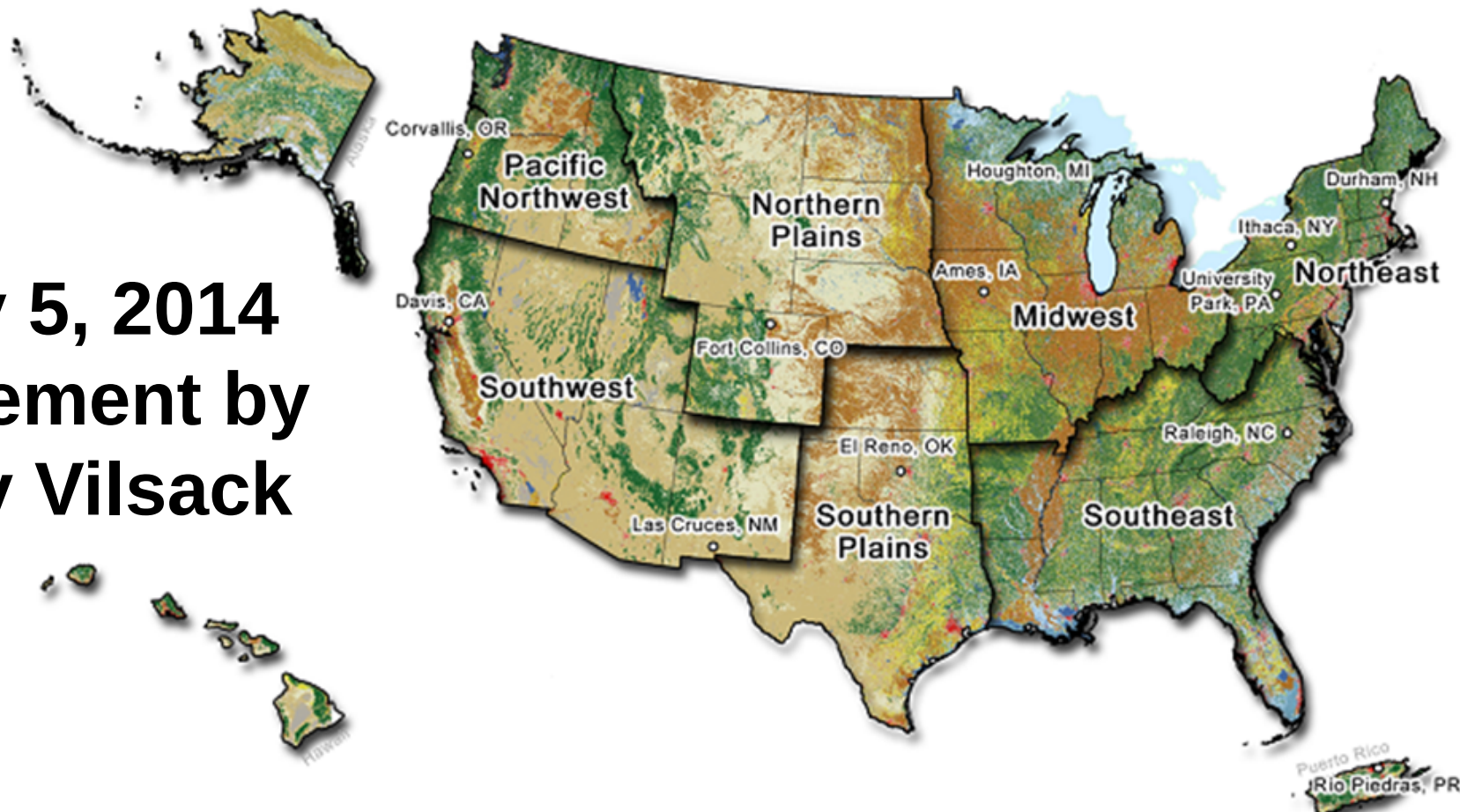




United States Department of Agriculture  
Northern Plains Climate Hub

# USDA Climate Hubs

**February 5, 2014  
Announcement by  
Secretary Vilsack**



**Ten regional USDA Climate Hubs synthesize and deliver science-based, region-specific information and tools through existing networks of USDA agencies and partners to help land managers make climate-informed decisions.**

# Key Objective

- The Hubs will deliver science-based knowledge and practical information to **farmers, ranchers, and forest landowners** that will help them to adapt to weather and climatic variability by ***coordinating*** with local and regional partners in Federal and state agencies, NGO's, private companies, and Tribes.







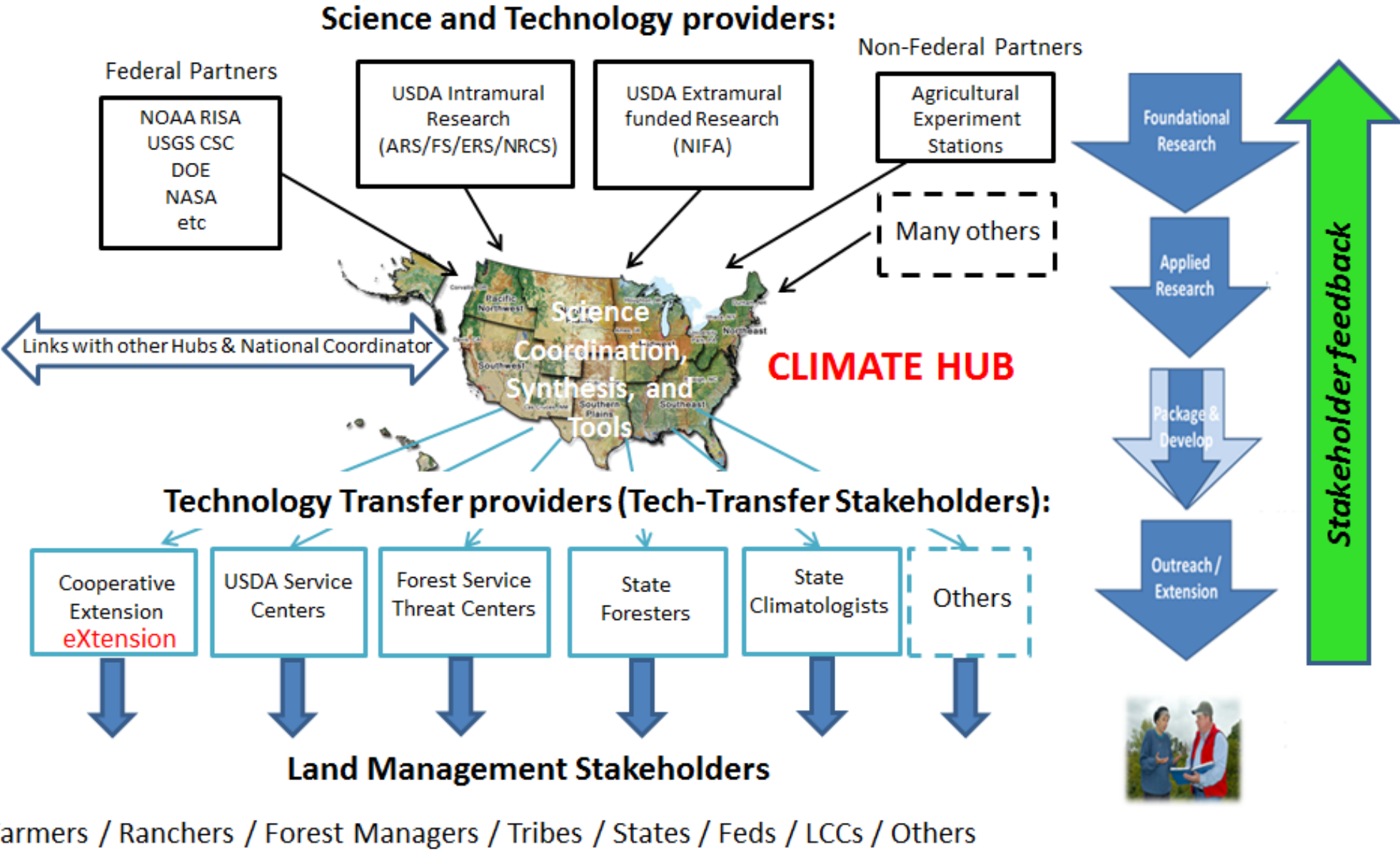
# Key Approach

- Conduct the transfer of information, tools and management practices *through trusted technology transfer providers* to **agricultural producers** to enhance ***decision making*** with regard to the **direct and indirect impacts of weather variability** for reduction of enterprise risk and increased resilience of working lands.





# Conceptual Framework for a USDA Regional Hub







# USDA Regional Climate Hub Personnel

- **Director: ARS or FS**
- **Program Coordinator**
- **Agency Liaisons: FSA, NRCS, RMA and APHIS**
- **Fellow: recently recruited**
  - Soil health, adaptive rangeland management
  - Social-ecological systems, adaptation workbook





## **USDA Regional Climate Hub Efforts**

- **Regional Vulnerability Assessments**
- **USDA Building Block Workshops**
- **Collaborations with NIFA-CAP grants**
- **Collaborations with other federal efforts**
- **Collaborations with Extension**
- **Collaborations with State Climatologists**
- **Development of educational (K-12) curricula**
- **Adaptation demonstration videos**
- **Fact sheets**
- **Special issue of *Climatic Change* (coming)**





# Adaptation Management Strategies

- **Improve soil health**
- **Alter planting dates**
- **Change crop varieties/cultivars**
- **Utilize cover crops**
- **Double cropping**
- **More “crop per drop: emphasis for water use**
- **Improve crop rotations**
- **Integrate crop-livestock systems**
- **Use of crop residues**
  
- **Increase residue cover to reduce soil exposure**
- **Adaptive and flexible stocking**



# Northern Plains Climate Hub Personnel

- **Director was Justin Derner**
  - Dannele Peck – new Director November 2016
  - FS Co-directors: Linda Joyce and Matt Reeves
  - NRCS Co-director: Rafael Guerrero
- **Program Coordinator: Windy Kelley (UW)**
- **Agency Liaison: David Nix (FSA)**
- **Fellow: Hailey Wilmer (CSU)**
  - adaptive rangeland management, social-ecological systems and adaptation workbook in western Great Plains rangelands



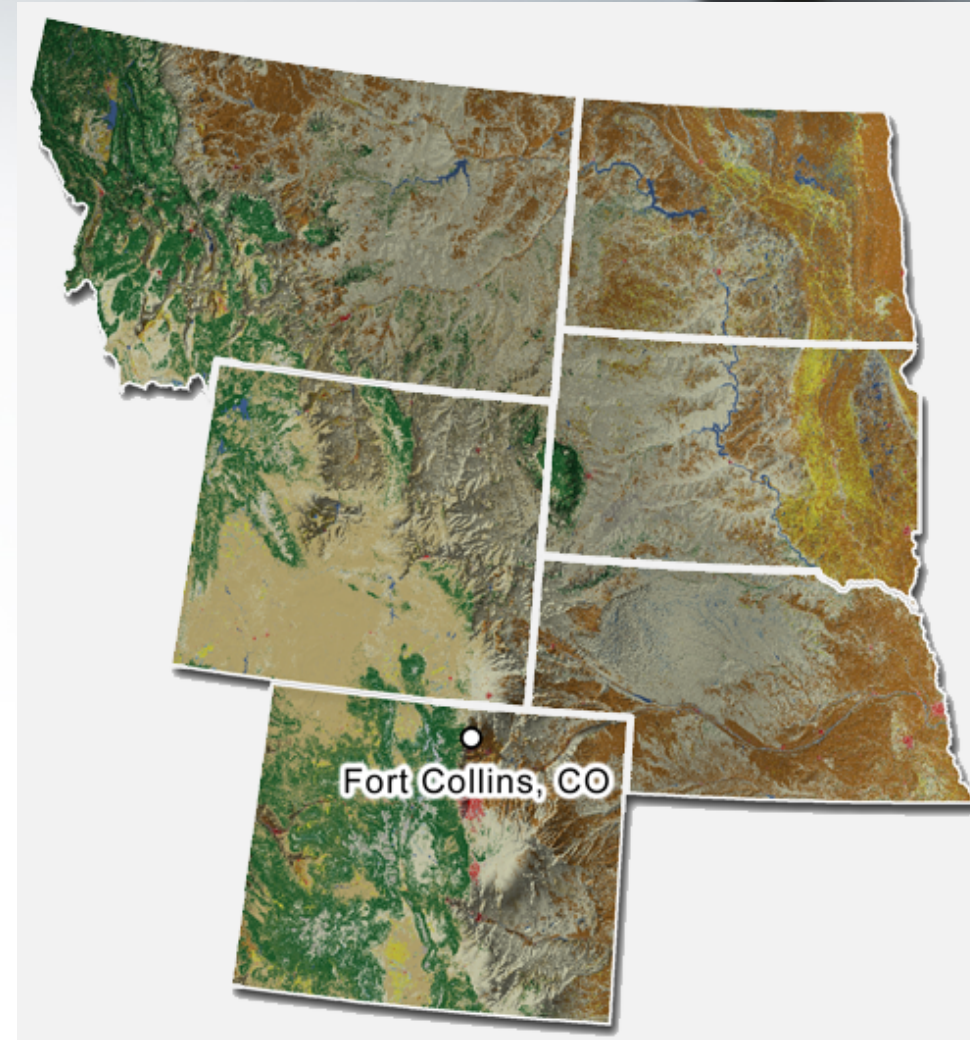


United States Department of Agriculture  
Northern Plains Climate Hub



# Northern Plains Climate Hub

- Arid, semiarid and mesic environments
- Highly diverse land uses, management and production-emphasis
- Collaboration emphasis with land-grant Extension, DOI North Central Climate Science Center and NOAA Western Water Assessment





United States Department of Agriculture  
Northern Plains Climate Hub



## Outreach/Education

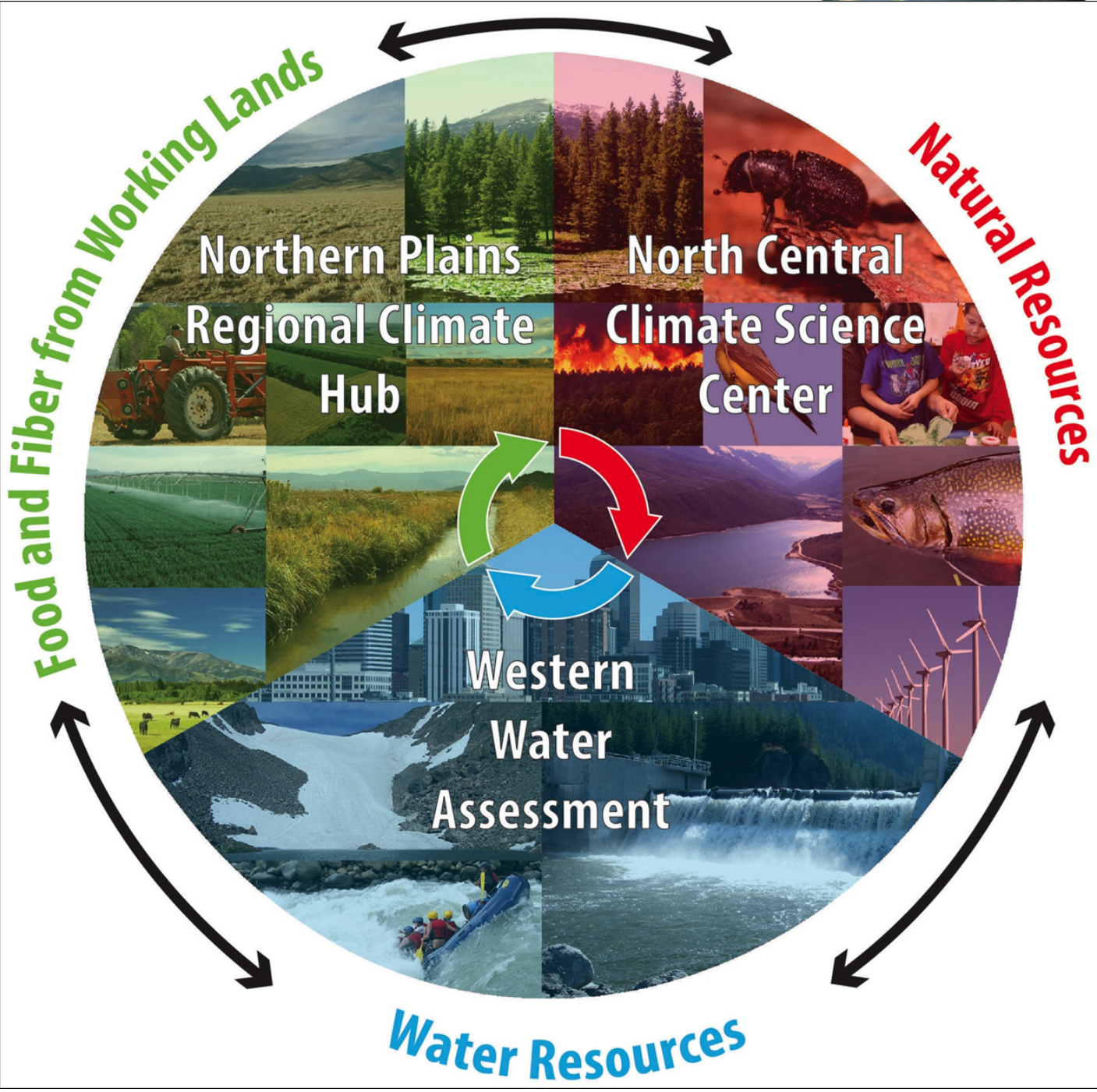
**Conduct  
retrospective/prospective efforts  
to garner feedback from  
agricultural producers.**







- Fundamental key role in this synergy
- Home of the Climate Science Center and Hub







United States Department of Agriculture  
Northern Plains Climate Hub



# Questions?



**Justin Derner: [Justin.Derner@ars.usda.gov](mailto:Justin.Derner@ars.usda.gov)**